IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A process for preparation of cumene using a catalytic membrane reactor, which comprises reacting isopropyl alcohol with benzene in a molar ratio of benzene to isopropyl alcohol in the range of 1:1 – 8:1, in the catalytic membrane reactor provided with a polymeric membrane, at a temperature in the range of 190-400°C, a liquid hour space velocity (LHSV) in the range of 1 to 6 h^{-1} and at a pressure of 1 to 10 bar, and separating the cumene obtained thereby with the polymeric membrane.

2. (original) A process as claimed in claim 1 wherein the reaction of the isopropyl alcohol with benzene is carried out in the presence of a carrier gas.

3. (currently amended) A process as claimed in claim 1 wherein the ~~catalytic~~ polymeric membrane is embedded with a zeolite catalyst.

4. (original) A process as claimed in claim 1 wherein the catalytic membrane reactor is provided with an inert packing material.

5. (currently amended) A process as claimed in claim 1 wherein the membrane reactor comprises a vertical or horizontal flat sheet reactor or a concentric radial reactor.

6. (currently amended) A process as claimed in claim 5 wherein the reactor comprises a vertical or a horizontal flat sheet reactor provided with [[a]] the polymeric membrane at a downstream side thereof.

7. (currently amended) A process as claimed in claim 5 wherein the walls of the concentric radial type reactor [[is]] are coated inside the reactor with [[a]] the polymeric membrane.

8. (original) A process as claimed in claim 1 wherein the benzene:isopropanol ratio is in the range of 2:1 to 5:1.

9. (original) A process as claimed in claim 1 wherein the benzene:isopropanol ratio is in the range of 3:1 to 4:1.

10. (original) A process as claimed in claim 1 wherein the reaction temperature is in the range of 200 to 240°C.

11. (original) A process as claimed in claim 1 wherein the liquid hourly space velocity is in the range of 2 – 4 h^{-1}.

12. (original) A process as claimed in claim 1 wherein the pressure is in the range of 1 to 4 bar.

13. (original) A process as claimed in claim 3 wherein the zeolite catalyst has a Si/Al ratio of 50 to 250.

14. (original) A process as claimed in claim 13 wherein the zeolite catalyst has a Si/Al ratio in the range of 100 to 250.

15. (original) A process as claimed in claim 3 wherein the zeolite catalyst is selected from the group consisting of zeolite β, zeolite X and zeolite Y.

16. (currently amended) A process as claimed in claim 13 wherein the surface area of the zeolite catalyst is in the range of 200 to 350m^2/g. [[,]]

17. (original) A process as claimed in claim 13 wherein the surface area of the zeolite catalyst is in the range of 250 to 300 m^2/g.

18. (original) A process as claimed in claim 1 wherein the polymer membrane is made of polymeric material selected from the group consisting of polyimide, polyetherimide, polybenzimidazole, polyphenyl quinoxaline, polyoxazole, polyethersulfone, polyphenyleneoxide, polyetherketone, polyetheretherketone, silicone rubber containing substituent and additives, polymers obtained from olefinic monomers, copolymers and oligomers of any of the above polymers.

19. (original) A process as claimed in claim 4 wherein the inert packing material is selected from the group consisting of porcelain bead, ceramic bead, structural packing, saddle packing and inert material balls.

20. (original) A process as claimed in claim 2 wherein the carrier gas is selected from the group consisting of argon, nitrogen, hydrogen and helium.

21. (currently amended) A process as claimed in claim 18 wherein the polymer membrane with or without impregnation of zeolite catalyst is obtained by preparing a solution of the polymer or oligomer or monomer in a solvent selected from the group consisting of N,N-dimethyl formamide, N,N-dimethyl acetamide, N-methyl pyrrolidine, tetrachloroethane, tetrahydrofuran, chloroform, dichloromethane, toluene, hexane or any mixture thereof, filtering the solution through a sintered funnel and then pouring the filtered solution onto a flat bottomed glass surface and allowing the solvent to evaporate at ambient or elevated temperature under a ~~controller~~ controlled atmosphere.

22. (original) A process as claimed in claim 21 wherein additives selected from the group consisting of ammonium peroxodisulfate, 2,2'-azoisobutyronitrile (AIBN), hydrogen peroxide and benzoyl peroxide are added as desired during the membrane formation process.

23. (currently amended) A process as claimed in claim 7 wherein the walls of the concentric radial reactor are coated inside the reactor with a solution of polymer/

oligomer/monomer and then solvent is allowed to evaporate at definite temperature and ~~controller~~ controlled atmosphere.

24. (original) A process as claimed in claim 3 wherein the zeolite catalyst is embedded in the polymer membrane by adding the zeolite in nanoparticle form to the solution of polymer or oligomer or monomers by stirring for 1 to 8 hours.

25. (original) A process as claimed in claim 1 wherein the polymer membrane in flat sheet form with or without zeolite catalyst impregnation, is prepared by a process selected from the group consisting of compression molding, solution casting, surface coating and spinning.

26. (original) A process as claimed in claim 25 wherein the polymer membrane is prepared at a temperature in the range of ambient to 200°C.

27. (original) A process as claimed in claim 25 wherein the polymer membrane is prepared at a temperature in the range of ambient to 150°C.

28. (original) A process as claimed in claim 25 wherein the thickness of the membrane prepared is in the range of from 1 – 300 micron.

29. (original) A process as claimed in claim 25 wherein the thickness of the membrane prepared is in the range of from 50 – 100 micron.